



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,831	10/01/2001	Kar Yan Tam	016660-103	3978
21839	7590	07/07/2006	EXAMINER	
BUCHANAN INGERSOLL PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				LANIER, BENJAMIN E
ART UNIT		PAPER NUMBER		
		2132		

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/965,831	TAM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Benjamin E. Lanier	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 June 2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 and 3-28 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 and 3-28 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 01 October 2001 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                     | Paper No(s)/Mail Date. _____ .  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 16 June 2006 has been entered.

### ***Response to Amendment***

2. The amendment filed 16 June 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: said watermarking information includes a robust watermark layer and a fragile watermark layer, said key is embedded in the at least one other section through said fragile watermark.

3. The specification discloses that the audio data file includes three layers: an audio layer, a robust watermark layer, and a fragile quality control information layer (Page 7). The fragile quality control information layer indirectly serves to protect the watermark layer (Page 7). The specification does not disclose that the fragile quality control information layer is a watermark layer. The specification does not disclose that the robust watermark layer contains additional watermark information.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Response to Arguments***

Art Unit: 2132

4. Applicant's arguments filed 16 June 2006 have been fully considered but they are not persuasive. Applicant's argument that Downs does not disclose using a fragile watermark to embed a key into an audio signal is not persuasive because Applicant discloses that the fragile watermark layer (Applicant points to page 7, lines 14-23 and page 8, lines 18-23 to support the fragile watermark layer) is a fragile quality control information layer containing the key and other information necessary for playback. Downs discloses that the key is embedded in the metadata section of the audio data (Col. 18, step 126). The key is retrieved from the metadata section to enable playback (Col. 19, steps 144-148), which meets the limitation of the fragile watermark layer as discussed, in detail above. Applicant's amended claim language does not distinguish from the Downs reference because the specification does not disclose any "fragile watermarking" techniques that could be considered distinguishable over the Downs reference.

#### *Claim Objections*

5. Claims 3, 4 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 3 and 4 depend from claim 2, which has been cancelled.

#### *Claim Rejections - 35 USC § 112*

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1, 18, 23, 25-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which

Art Unit: 2132

was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The added material which is not supported by the original disclosure is as follows: said watermarking information includes a robust watermark layer and a fragile watermark layer, said key is embedded in the at least one other section through said fragile watermark.

8. The specification discloses that the audio data file includes three layers: an audio layer, a robust watermark layer, and a fragile quality control information layer (Page 7). The fragile quality control information layer indirectly serves to protect the watermark layer (Page 7). The specification does not disclose that the fragile quality control information layer is a watermark layer. The specification does not disclose that the robust watermark layer contains additional watermark information. For the purposes of examination, Applicant's claimed fragile watermark layer will be the portion of the audio data that contains the key, which in the specification is the fragile quality control information layer (Pages 7-9).

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1, 18, 23, 25-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on

Art Unit: 2132

notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The specification (Page 7) clearly differentiates between the robust watermark layer and the fragile quality control information layer (Pages 7-9). There is no disclosure of the robust watermark layer contains fragile information, and the no disclosure of the fragile quality control information layer containing watermark information. Therefore, the claims are indefinite because the specification does not clearly redefine the term. For the purposes of examination The fragile watermark layer will be treated as the section of data that contains the key.

***Claim Rejections - 35 USC § 101***

12. Claims 18-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 18-22 are directed to a signal in general, which is non-statutory because a propagated signal is not capable of causing functionality change in a computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760. “Functional descriptive material consists of data structures and computer programs which impart functionality when employed as a computer component.” Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility Annex IV, Oct. 26, 2005, at [http://www.uspto.gov/web/offices/pac/dapp/opla/preognocice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognocice/guidelines101_20051026.pdf), 1300 OG 142 (Nov. 22, 2005). The claims should be amended to specify that the watermarked audio data is stored on a computer readable medium.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2132

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1, 3-5, 8-13, 16-28, are rejected under 35 U.S.C. 102(e) as being anticipated by Downs, U.S. Patent No. 6,226,618. Referring to claim 1, Downs discloses an electronic content delivery system wherein an uncompressed audio file is watermarked with identification data (Col. 18, steps 121-125), which meets the limitation of incorporating watermarking information into said audio signal, marking at least one said section whereby said sections may be identified. The audio file is distributed in a content object that contains a metadata section and a content section (Col. 23, lines 36-39), which meets the limitation of sectioning said signal into at least two sections. The content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), which meets the limitation of generating distortion in one said section of said signal in a manner recoverable by a key obtainable from at least one other said section. Only a portion of the metadata section is encrypted (Col. 18, step 125). The encrypted content and all the metadata is combined into a content package (Col. 18, step 127), which meets the limitation of appending said distorted section to said at least one other section to form a composite signal comprising a distorted section and at least one undistorted section. The key for decrypting the encrypted section is contained in a metadata section (Col. 18, step 126), which also contains audio data (Col. 58, line 4). Therefore, the metadata section of Downs reads on the amended claim limitations requiring at least two sections each having audio content. Downs discloses that the key is embedded in the metadata section of the audio data (Col. 18, step 126).

The key is retrieved from the metadata section to enable playback (Col. 19, steps 144-148), which meets the limitation of the fragile watermark layer as discussed, in detail above.

Referring to claims 2, 5, 8, Downs discloses that the symmetric key is included in the metadata section (Col. 23, lines 35-36) and the metadata section is appended to the content identified by a content identifier, which meets the limitation of said key is embedded in said at least one other said section by means of said watermarking information, said key is obtained directly from a sequence of bits contained in said at least one other said section.

Referring to claim 3, Downs discloses that the symmetric key is randomly generated (Col. 15, lines 63-65), which meets the limitation of said distortion is generated by creating a pseudo-random number sequence for adding as pseudo-random noise to said first said section, and wherein said pseudo-random number sequence is embedded in said at least one other section to enable said random noise to be subsequently removed.

Referring to claim 4, encryption is a form of scrambling.

Referring to claim 9, Downs discloses the content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), which meets the limitation of said first section comprises a section to which access is to be restricted.

Referring to claim 10, Downs discloses the content can contain a store advertisement object (Col. 85, line 50).

Referring to claim 11, Downs discloses that the metadata section contains usage rights that specify the number of plays allowed for the content (Col. 21, lines 25-29), which meets the limitation of said at least one other section comprises a trial listening section.

Referring to claim 12, Downs discloses the content can contain a store advertisement object (Col. 85, line 50) and that the metadata section contains usage rights that specify the number of plays allowed for the content (Col. 21, lines 25-29), which meets the limitation of at least one other section comprises an advertisement section and a trial listening section.

Referring to claim 13, Downs discloses that the watermarked audio signal is compressed (Col. 18, step 125).

Referring to claim 16, Downs discloses that once the user receives the content package that the user retrieves the symmetric key and then decrypts the content file (Col. 19, steps 144-148), which meets the limitation of reading said composite signal, identifying said sections, obtaining said key from said at least one undistorted section, and recovering said distorted section.

Referring to claim 17, Downs discloses that decryption is performed in real-time (Col. 82, line 52).

Referring to claims 18, 19, Downs discloses that the content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), which meets the limitation of the audio signal comprising at least two sections, including a first section which is distorted in a manner recoverable by means of a key obtainable from at least one other section, said first section is a section to which access is restricted. The key for decrypting the encrypted section is contained in a metadata section (Col. 18, step 126), which also contains audio data (Col. 58, line 4). Therefore, the metadata section of Downs reads on the amended claim limitations requiring at least two sections each having audio content.

Referring to claim 20, Downs discloses the content can contain a store advertisement object (Col. 85, line 50).

Referring to claim 21, Downs discloses that the metadata section contains usage rights that specify the number of plays allowed for the content (Col. 21, lines 25-29), which meets the limitation of said at least one other section comprises a trial listening section.

Referring to claim 22, Downs discloses the content can contain a store advertisement object (Col. 85, line 50) and that the metadata section contains usage rights that specify the number of plays allowed for the content (Col. 21, lines 25-29), which meets the limitation of at least one other section comprises an advertisement section and a trial listening section.

Referring to claim 23, Downs discloses an electronic content delivery system wherein an uncompressed audio file is watermarked with identification data (Col. 18, steps 121-125), which meets the limitation of means for incorporating watermarking information into said audio signal, means for marking at least one said section whereby said sections may be identified. The audio file is distributed in a content object that contains a metadata section and a content section (Col. 23, lines 36-39), which meets the limitation of means for sectioning said signal into at least two sections. The content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), which meets the limitation of means for generating distortion in one said section of said signal in a manner recoverable by a key obtainable from at least one other said section. Only a portion of the metadata section is encrypted (Col. 18, step 125). The encrypted content and all the metadata is combined into a content package (Col. 18, step 127), which meets the limitation of means for appending said distorted section to said at least one other section to form a composite signal comprising a distorted section and at least one undistorted

section. The key for decrypting the encrypted section is contained in a metadata section (Col. 18, step 126), which also contains audio data (Col. 58, line 4). Therefore, the metadata section of Downs reads on the amended claim limitations requiring at least two sections each having audio content. Downs discloses that the key is embedded in the metadata section of the audio data (Col. 18, step 126). The key is retrieved from the metadata section to enable playback (Col. 19, steps 144-148), which meets the limitation of the fragile watermark layer as discussed, in detail above.

Referring to claim 24, Downs discloses that once the user receives the content package that the user retrieves the symmetric key and then decrypts the content file (Col. 19, steps 144-148), which meets the limitation of reading said composite signal, identifying said sections, obtaining said key from said at least one undistorted section, and recovering said distorted section.

Referring to claim 25, Downs discloses an electronic content delivery system wherein an uncompressed audio file is watermarked with identification data (Col. 18, steps 121-125), which meets the limitation of incorporating watermarking information into said audio signal, marking at least one said section whereby said sections may be identified. The audio file is distributed in a content object that contains an advertisement object and a content section (Col. 23, lines 36-39 & Col. 85, line 50), which meets the limitation of including an advertisement with audio data in an audio signal comprising, sectioning said signal into a first section and an advertisement section. The content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), which meets the limitation of generating distortion of said first section in manner recoverable by a key obtainable from said advertisement section, and appending said distorted first section to said advertisement section. The key is retrieved from the metadata section to

enable playback (Col. 19, steps 144-148), which meets the limitation of the fragile watermark layer as discussed, in detail above.

Referring to claim 26, Downs discloses an electronic content delivery system wherein an uncompressed audio file is watermarked with identification data (Col. 18, steps 121-125), which meets the limitation of incorporating watermarking information into said audio signal, marking at least one said section whereby said sections may be identified. The audio file is distributed in a content object that contains a metadata section containing usage rights that specify the number of plays allowed for the content (Col. 21, lines 25-29) and a content section (Col. 23, lines 36-39 & Col. 85, line 50), which meets the limitation of including a trial listening section with audio data in an audio signal comprising, sectioning said signal into a first section and a trial listening section. The content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), which meets the limitation of distortion of said first section in a manner recoverable by a key obtainable from said trial listening section, and appending said distorted first section to said advertisement section. The key is retrieved from the metadata section to enable playback (Col. 19, steps 144-148), which meets the limitation of the fragile watermark layer as discussed, in detail above.

Referring to claim 27, Downs discloses an electronic content delivery system wherein an uncompressed audio file is watermarked with identification data (Col. 18, steps 121-125), which meets the limitation of incorporating watermarking information into said audio signal, marking at least one said section whereby said sections may be identified. The audio file is distributed in a content object that contains an advertisement object, a metadata section containing usage rights that specify the number of plays allowed for the content (Col. 21, lines 25-29) and a content

Art Unit: 2132

section (Col. 23, lines 36-39 & Col. 85, line 50), which meets the limitation of including an advertisement object and a trial listening section with audio data in an audio signal comprising, sectioning said signal into a first section, an advertisement object and a trial listening section. The content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), which meets the limitation of distortion of said first section in a manner recoverable by a key obtainable from at least one of said advertisement object, trial listening section, and appending said distorted first section to said advertisement section and trial listening sections for form a composite signal. The key is retrieved from the metadata section to enable playback (Col. 19, steps 144-148), which meets the limitation of the fragile watermark layer as discussed, in detail above.

Referring to claim 28, Downs discloses an electronic content delivery system wherein an uncompressed audio file is watermarked with identification data (Col. 18, steps 121-125), which meets the limitation of incorporating watermarking information into said audio signal, marking at least one said section whereby said sections may be identified. The audio file is distributed in a content object that contains a metadata section and a content section (Col. 23, lines 36-39), which meets the limitation of sectioning said signal into at least two sections. The content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), which meets the limitation of generating distortion in one said section of said signal in a manner recoverable by a key obtainable from at least one other said section. Only a portion of the metadata section is encrypted (Col. 18, step 125). The encrypted content and all the metadata is combined into a content package (Col. 18, step 127), which meets the limitation of appending said distorted section to said at least one other section to form a composite signal comprising a

distorted section and at least one undistorted section. The key for decrypting the encrypted section is contained in a metadata section (Col. 18, step 126), which also contains audio data (Col. 58, line 4). Therefore, the metadata section of Downs reads on the amended claim limitations requiring at least two sections each having audio content. Downs discloses that the key is embedded in the metadata section of the audio data (Col. 18, step 126). The key is retrieved from the metadata section to enable playback (Col. 19, steps 144-148), which meets the limitation of the fragile watermark layer as discussed, in detail above.

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. Claims 6, 7, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downs, U.S. Patent No. 6,226,618, in view of Schneier. Referring to claims 6, 7, Downs discloses that the content is encrypted using a symmetric key that is packed along with the content (Col. 18, steps 125-127), but does not disclose encrypting using a hash output. Schneier discloses a

method of symmetric encryption that hashes the file to be encrypted and then encrypts the file using the hash output (Pages 351-353). It would have been obvious to one of ordinary skill in the art at the time the invention was made to encrypt the audio files of Downs using the output of the audio file hashes because that encryption process performs faster than other symmetric encryption algorithms as taught in Schneier (Page 355).

Referring to claim 14, Downs discloses that the watermarked audio signal is compressed (Col. 18, step 125).

18. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Downs, U.S. Patent No. 6,226,618, in view of Jones, U.S. Patent No. 6,697,944. Referring to claim 15, Downs discloses compressing the audio files using mpeg compression algorithms, but does not specify mpeg layer 3 compression. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic distribution system of Downs to use mpeg layer 3 compression because at the time of Downs invention mpeg layer 3 compression was widely the most used form of audio compression as taught by Jones (Col. 1, line 66 – Col. 2, line 1).

### *Conclusion*

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin E. Lanier whose telephone number is 571-272-3805. The examiner can normally be reached on M-Th 7:30am-5:00pm, F 7:30am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2132

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Benjamin E. Lanier